

ABSTRACT OF THE DISCLOSURE

A novel medium, method and system for proving a turbine meter for use with natural gas. The novel test medium is a gas having the following characteristics: (a) Density $> 2 \times$ Density of Natural Gas; (b) Dynamic Viscosity $<$ Dynamic Viscosity of Natural Gas; and (c) Ideal gas behavior for approximately $15^{\circ}\text{C} < T < 25^{\circ}\text{C}$ and $1 \text{ bar} < P < 50 \text{ bar}$. The method and system make use of the novel test medium. Also disclosed is a novel method and system for cooling a test medium circulating in a turbine meter prover system involving injecting liquefied test medium into said circulating test medium.